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09/136,483	08/19/98	KUMAR	S N19.12-0016
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EXAMINER

MARCHESCHI, M

ART UNIT	PAPER NUMBER
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1755

22

DATE MAILED:

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

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UNITED STATES DEPARTMENT OF COMMERCE  
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Washington, D.C. 20231

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Paper No. 22

Application Number: 09/136,483  
Filing Date: 8/19/98  
Appellant(s): Kumar et al.

**MAILED**

NOV 16 2000

**GROUP 1700**

Peter S. Dardi, Ph.D.  
For Appellant

**EXAMINER'S ANSWER**

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This is in response to appellant's brief on appeal filed 9/5/00.

**(1) *Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(3) *Status of Claims***

The statement of the status of the claims contained in the brief is correct.

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(4) *Status of Amendments After Final***

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) *Summary of Invention***

The summary of invention contained in the brief is correct.

**(6) *Issues***

The appellant's statement of the issues in the brief is correct.

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**(7) *Grouping of Claims***

Appellant's brief includes a statement that claims 1-3 and 5-22 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

**(8) *Claims Appealed***

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(9) *Prior Art of Record***

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

5,389,194	Rostoker et al.	2-1995
5,064,517	Shimo	11-1991
5,697,992	Ueda et al.	12-1997

**(10) *Grounds of Rejection***

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-3, 5-16 and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rostoker et al. (194) alone or in view of Ueda et al.

Rostoker et al. (194) teach in column 4, lines 12-24, a polish comprising alumina or silica having a size of between 30-100 nm and a specific distribution..

Ueda et al. teach in column 4, lines 40-43 that non-aqueous or aqueous mediums are well known to be used to make polishing compositions.

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Rostoker et al. teach a polish comprising alumina particles having a size within the claimed range and therefore no distinction is seen to exist because the subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, see *In re Malagari*, 182 U.S.P.Q. 549. With respect to the additional abrasive, it is the examiners position that one skilled in the art would have found it obvious to use silica (or other abrasives) in combination with alumina in the above reference because it is prima facie obvious to combine two or more materials disclosed by the prior art to form a third material that is to be used for the same purpose (i.e. a combination of abrasives). In re Kerkhoven 205 USPQ 1069. Finally, with respect to the use of a nonaqueous solvent as the dispersing medium, it is the examiners position that since the reference fails to **literally** disclose any medium, this medium is an obvious modification thereof and one skilled in the art would have routinely known that either water or another solvent (nonaqueous) can be used as the dispersing medium. In addition, the reference defines (throughout the specification and examples) that a medium is used and this broadly encompasses any medium (i.e. aqueous or non-aqueous). In the alternative, Ueda et al. teach in column 4, lines 40-43 that non-aqueous or aqueous mediums are well known to be used to make polishing compositions.

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Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimo.

Shimo teaches in column 5, lines 11-18, column 8, lines 18-21 and the claims, a process for making a metal oxide having a size less than 0.3 micron comprising laser pyrolysis of a mixture of an organometallic precursor (aluminum) and an oxygen containing compound.

The reference teaches a method of making aluminum oxide which comprises all of the claimed steps and therefore no significant difference is seen to exist in the absence of any evidence showing the contrary. With respect to the oxygen containing compound, it is the examiners position that the broad interpretation of this compound can be (act as) both an oxidizer and absorber (i.e. ozone) and therefore no distinction is seen to exist. With respect to the size of the oxide, the reference teaches sizes within the claimed range and therefore no distinction is seen to exist because the subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, see *In re Malagari*, 182 U.S.P.Q. 549.

**(11) Response to Argument**

Appellants argue that Rostoker et al. fail to disclose the claimed narrow particle sizes. The examiner disagrees with appellants because, as shown by Rostoker et al. in column 7, lines 4+, the alumina particles have a distribution which reads on the claimed distribution. Assuming arguendo, many of the claims (i.e. claims 1-3, 9-16) do not even define a

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distribution because the phrase "less than" reads on zero, thus no distribution is present. In view of overlapping sizes and distributions, the subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a *prima facie* case of obviousness, see *In re Malagari*, 182 U.S.P.Q. 549). Appellants argue that this case law is not relevant. The examiner does not agree. In addition, the Rostoker et al. patent defines sizes and distribution within (all ranges are inside the claimed ranges) the claimed range and not necessarily overlapping ranges (i.e. the reference does not have a range inside and outside of the claimed ranges).

Appellants also argue that Rostoker et al. produces the particles by the Siegel et al. patent (5,128,081) method. The examiner disagrees because Rostoker et al. does not state that this is the only method of making the particles, but rather uses the Siegel et al. reference as showing a known **possible** method. Rostoker et al. does limit the method to the Siegel et al. method, as argued by the appellants. Appellants also appear to argue that the particles taught in the Rostoker et al. patent are those of the Siegel et al. patent. Appellants are apparently ignoring the teachings in column 7, the examples and the claims which define that the particles have the claimed distribution.

Appellants also argue that the particle size distribution of Rostoker et al. (194) is a gaussian distribution with a corresponding large tail. Appellants have not provided any

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evidence to support this. The conventional definition of a gaussian distribution is that the distribution curve has the shape of a normal probability curve (bell curve). This definition does not set forth that the distribution has a large tail. To support appellants contentions, appellants refer to the Siegel et al. patent and various other publications. The examiner fails to see the relevance of these publications and how they can be used to support appellants argument. Even if a tail was present in Rostoker et al. (examiner is not agreeing with appellants), (1) the instant claims do not preclude the presence of a tail (i.e. distribution would have a tail) and (2) appellants have not shown that any tail defined by Rostoker et al. would not fall within the claimed distribution.

Appellants argue that Shimo does not teach the instantly claimed process because the reference does not teach reacting a **flowing** reacting stream. The examiner acknowledges that “flowing” is not literally defined, but it is the examiners position that the vapor in the vapor phase has flowing capabilities (i.e. vapor is not 100% still) and therefore reads on the instant claims.

Finally, appellants argue the declaration by Nobuyuki Kambe, but this declaration **does not** show any evidence rebutting the obviousness rejections. The declaration appears to state that the synthesis of the reference is not capable of producing nanoparticles as defined by the claimed invention. **This is not convincing because Rostoker et al. teach alumina particles**



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having sizes within the claimed range and therefore a prima facie case of obviousness is established. Since the particles have the same size and distribution, they must have been produced by some method. In addition, the declaration is based on opinions which are not substantiated by clear and convincing evidence.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,  
*Michael Marcheschi*

MICHAEL MARCHESCHI  
PRIMARY EXAMINER

Michael Marcheschi  
November 14, 2000

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